CLAIMS:

1. A sound reproduction system comprising a digital audio signal input (1), a digital audio signal processor (2, DSP) and a digital audio signal output (1) wherein the digital signal processor (2, DSP) comprises a high pass (HP) filter (21) with a pass frequency (f) of between a first and a second frequency, a compressing amplifier (22) for compression and amplification of a signal, at least amplification being performed after HP filtering, and a clipper for clipping the HP filtered, compressed and amplified signal above a clipping level.

2. A sound reproduction system as claimed in claim 1, wherein the pass frequency (f) is a frequency between 300 Hz and 2 kHz.

3. A sound reproduction system as claimed in claim 1, wherein the high pass filter is a first order or second order filter.

4. A sound reproduction system as claimed in claim 1 wherein the device comprises a measuring device (130) for measuring background noise and an adaptor 131 for adapting one or more parameters (f, order) for the high pass filter (HP).

5. A sound reproduction system as claimed in claim 4, wherein the pass frequency is adaptable between 50 and 2 kHz.

6. A sound reproduction system as claimed in claim 1, wherein the compressing amplifier is arranged not to amplify a signal having a signal strength below a threshold value.

7. A sound reproduction system as claimed in claim 1, wherein the device comprises a measuring device 130 for measuring background noise and an adaptor 131 for adapting one or more parameters for the compressing amplifier (22).

8. A sound reproduction system as claimed in claim 1, wherein the digital audio processor comprises a low pass filter (23) for filtering the signal provided by the

compressing amplifier and for providing an output signal, the pass frequency of the low pass filter (f') lying in the range 2 kHz-Fs/2 where Fs is the sampling frequency.

9. A sound reproduction system as claimed in claim 8, wherein the device comprises a measuring device 130 for measuring background noise and an adaptor 131 for adapting one or more parameters (f') for the low pass filter.

10. A sound reproduction system as claimed in claim 9, wherein the system comprises a means for activation and/or setting of the frequency dependence of the low pass filter in dependence on the amplification in the compressing amplifier.

11. A sound reproduction system as claimed in any of the claims 4, 7 or 9, wherein the one or more of the said parameters is a non-linear function of the measured noise level.

12. A sound reproduction system as claimed in claim 1, wherein the system comprises the high pass filter followed by an AGC followed by a limiter/clipper.

13. A sound reproduction system as claimed in claim 1, wherein the system comprises an automatic volume leveler preceded, or preferably, followed by the high pass filter, providing a leveled signal, followed by a gain and a clipper.

14. A method for processing digital sound signals in which method frequency component of the sound signal lower than a cut-off frequency (f) between a first and a second frequency are attenuated, the sound signals are amplified and compressed to within a signal band width and clipped above a clipping level within the signal band width.

15. A method as claimed in claim 13, wherein the cut-off frequency is between 300 Hz and 2 kHz.

16. A method as claimed in claim 13 wherein a noise level is measured and the cut-off frequency (f) is determined in dependence on the measured noise level (S).

17. A method as claimed in claim 16, wherein the cut-off frequency is determined by a non-linear function of the noise level (S).

18. A method as claimed in claim 16, wherein the cut-off frequency ranges between 50 Hz and 2 kHz.

19. A method as claimed in claim 13, wherein after compression and clipping frequency components of the resulting digital signal below a cut off frequency f' between 2 and 4 kHz are attenuated.

20. A method as claimed in claim 19 wherein a noise level is measured and the cut-off frequency (f') is determined in dependence on the measured noise level (S).

21. A method as claimed in claim 20, wherein the cut-off frequency (f') is determined by a non-linear function of the noise level (S).

22. A method as claimed in claim 13, wherein activation and/or setting of the frequency dependence of the low pass filter is performed in dependence on the amplification in the leveling amplification step.

23. Computer program comprising program code means for performing a method as claimed in any one of claims 13 to 22 when said program is run on a computer.

24. Computer program product comprising program code means stored on a computer readable medium for performing a method as claimed in any one of claims 13 to 22.